

ARTICLE X - MAINTENANCE OF RECORDS AND AUDIT

A. Not later than 60 calendar days after the effective date of this Agreement, the Government and the Non-Federal Sponsor shall develop procedures for keeping books, records, documents, or other evidence pertaining to costs and expenses incurred pursuant to this Agreement. These procedures shall incorporate, and apply as appropriate, the standards for financial management systems set forth in the Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments at 32 C.F.R. Section 33.20. The Government and the Non-Federal Sponsor shall maintain such books, records, documents, or other evidence in accordance with these procedures and for a minimum of three years after completion of the accounting for which such books, records, documents, or other evidence were required. To the extent permitted under applicable Federal laws and regulations, the Government and the Non-Federal Sponsor shall each allow the other to inspect such books, records, documents, or other evidence.

B. In accordance with 32 C.F.R. Section 33.26, the Non-Federal Sponsor is responsible for complying with the Single Audit Act Amendments of 1996, 31 U.S.C. Sections 7501-7507, as implemented by Office of Management and Budget (OMB) Circular No. A-133 and Department of Defense Directive 7600.10. Upon request of the Non-Federal Sponsor and to the extent permitted under applicable Federal laws and regulations, the Government shall provide to the Non-Federal Sponsor and independent auditors any information necessary to enable an audit of the Non-Federal Sponsor's activities under this Agreement. The costs of any non-Federal audits performed in accordance with this paragraph shall be allocated in accordance with the provisions of OMB Circulars A-87 and A-133, and such costs as are allocated to the *general navigation features* shall be included in *total costs of construction of the general navigation features* and shared in accordance with the provisions of this Agreement.

C. In accordance with 31 U.S.C. Section 7503, the Government may conduct audits in addition to any audit that the Non-Federal Sponsor is required to conduct under the Single Audit Act Amendments of 1996. Any such Government audits shall be conducted in accordance with Government Auditing Standards and the cost principles in OMB Circular No. A-87 and other applicable cost principles and regulations. The costs of Government audits performed in accordance with this paragraph shall be included in *total costs of construction of the general navigation features* and shared in accordance with the provisions of this Agreement.

ARTICLE XI - FEDERAL AND STATE LAWS

In the exercise of their respective rights and obligations under this Agreement, the Non-Federal Sponsor and the Government agree to comply with all applicable Federal and State laws and regulations, including, but not limited to: Section 601 of the Civil Rights Act of 1964, Public Law 88-352 (42 U.S.C. 2000d) and Department of Defense Directive 5500.11 issued pursuant thereto; Army Regulation 600-7, entitled "Nondiscrimination on the Basis of Handicap in Programs and Activities Assisted or Conducted by the Department of the Army"; and all applicable Federal labor standards requirements including, but not limited to, 40 U.S.C. 3141-3148 and 40 U.S.C. 3701-3708 (revising, codifying and enacting without substantive change the

provisions of the Davis-Bacon Act (formerly 40 USC 276a *et seq.*), the Contract Work Hours and Safety Standards Act (formerly 40 USC 327 *et seq.*) and the Copeland Anti-Kickback Act (formerly 40 USC 276c).

ARTICLE XII - RELATIONSHIP OF PARTIES

A. In the exercise of their respective rights and obligations under this Agreement, the Government and the Non-Federal Sponsor each act in an independent capacity, and neither is to be considered the officer, agent, or employee of the other.

B. In the exercise of its rights and obligations under this Agreement, neither party shall provide, without the consent of the other party, any contractor with a release that waives or purports to waive any rights the other party may have to seek relief or redress against that contractor either pursuant to any cause of action that the other party may have or for violation of any law.

ARTICLE XIII - OFFICIALS NOT TO BENEFIT

No member of or delegate to the Congress, nor any resident commissioner, shall be admitted to any share or part of this Agreement, or to any benefit that may arise therefrom.

ARTICLE XIV - TERMINATION OR SUSPENSION

A. If at any time the Non-Federal Sponsor fails to fulfill its obligations under this Agreement, the Assistant Secretary of the Army (Civil Works) shall terminate this Agreement or suspend future performance under this Agreement unless he determines that continuation of work on the *general navigation features* is in the interest of the United States or is necessary in order to satisfy agreements with any other non-Federal interests in connection with the *Project*.

B. If the Government determines that Federal funds for the *Project* are not sufficient to meet the Federal share of the costs of work on the *Project* in the then-current or upcoming *fiscal year*, the Government shall so notify the Non-Federal Sponsor in writing, and 60 calendar days thereafter either party may elect without penalty to terminate this Agreement or to suspend future performance under this Agreement. In the event that either party elects to suspend future performance under this Agreement pursuant to this paragraph, such suspension shall remain in effect until such time as the Government receives sufficient Federal funds for the *Project* or until either the Government or the Non-Federal Sponsor elects to terminate this Agreement, whichever is earlier.

C. In the event that either party elects to terminate this Agreement pursuant to this Article or Article XV.C. of this Agreement, both parties shall conclude their activities relating to the *Project* and proceed to a final or interim accounting for the *initial period of construction*, as applicable, in accordance with Article VI.C. of this Agreement, or a final or interim accounting

for such *subsequent period of construction*, as applicable, in accordance with Article VI.D. of this Agreement, as applicable.

D. Any termination of this Agreement or suspension of future performance under this Agreement in accordance with this Article or Article XV.C. of this Agreement shall not relieve the parties of liability for any obligation previously incurred. Any delinquent payment owed by the Non-Federal Sponsor shall be charged interest at a rate, to be determined by the Secretary of the Treasury, equal to 150 per centum of the average bond equivalent rate of the 13-week Treasury bills auctioned immediately prior to the date on which such payment became delinquent, or auctioned immediately prior to the beginning of each additional 3-month period if the period of delinquency exceeds 3 months.

ARTICLE XV - HAZARDOUS SUBSTANCES

A. After execution of this Agreement and upon direction by the District Engineer, the Non-Federal Sponsor shall perform, or ensure performance of, any investigations for hazardous substances that the Government or the Non-Federal Sponsor determines to be necessary to identify the existence and extent of any hazardous substances regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (hereinafter "CERCLA"), 42 U.S.C. Sections 9601-9675, that may exist in, on, or under lands, easements, and rights-of-way that the Government determines, pursuant to Article III of this Agreement, to be necessary for construction or operation and maintenance of the *general navigation features*. However, for lands, easements, and rights-of-way that the Government determines to be subject to the navigation servitude, only the Government shall perform such investigations unless the District Engineer provides the Non-Federal Sponsor with prior specific written direction, in which case the Non-Federal Sponsor shall perform such investigations in accordance with such written direction.

1. All actual costs incurred by the Non-Federal Sponsor for such investigations for hazardous substances that are determined by the Government to be attributable to the *general navigation features* shall be included in *total costs of construction of the general navigation features* and shared in accordance with the provisions of this Agreement, subject to an audit in accordance with Article X.C. of this Agreement to determine reasonableness, allocability, and allowability of costs.

2. All actual costs incurred by the Government for such investigations for hazardous substances that are determined by the Government to be attributable to the *general navigation features* shall be included in *total costs of construction of the general navigation features* and shared in accordance with the provisions of this Agreement.

B. In the event it is discovered through any investigation for hazardous substances or other means that hazardous substances regulated under CERCLA exist in, on, or under any lands, easements, or rights-of-way that the Government determines, pursuant to Article III of this Agreement, to be necessary for construction or operation and maintenance of the *general navigation features*, the Non-Federal Sponsor and the Government, in addition to providing any

other notice required by applicable law, shall provide prompt written notice to each other, and the Non-Federal Sponsor shall not proceed with the acquisition of the real property interests until the parties agree that the Non-Federal Sponsor should proceed.

C. The Government and the Non-Federal Sponsor shall determine whether to initiate construction or operation and maintenance of the *general navigation features*, or, if already in construction or operation and maintenance of the *general navigation features*, whether to continue with construction or operation and maintenance of the *general navigation features*, suspend future performance under this Agreement, or terminate this Agreement for the convenience of the Government, in any case where hazardous substances regulated under CERCLA are found to exist in, on, or under any lands, easements, or rights-of-way that the Government determines, pursuant to Article III of this Agreement, to be necessary for construction or operation and maintenance of the *general navigation features*. Should the Government and the Non-Federal Sponsor determine to initiate or continue with construction or operation and maintenance of the *general navigation features* after considering any liability that may arise under CERCLA, the Non-Federal Sponsor shall be responsible, as between the Government and the Non-Federal Sponsor, for the costs of cleanup and response, to include the costs of any studies and investigations necessary to determine an appropriate response to the contamination. Such costs shall not be considered a part of *total costs of construction of the general navigation features*. In the event the Non-Federal Sponsor fails to provide any funds necessary to pay for cleanup and response costs or to otherwise discharge the Non-Federal Sponsor's responsibilities under this paragraph upon direction by the Government, the Government, in its sole discretion, may either terminate this Agreement for the convenience of the Government, suspend future performance under this Agreement, or continue work on the *general navigation features*.

D. The Non-Federal Sponsor and the Government shall consult with each other in accordance with Article V of this Agreement in an effort to ensure that responsible parties bear any necessary cleanup and response costs as defined in CERCLA. Any decision made pursuant to paragraph C. of this Article shall not relieve any third party from any liability that may arise under CERCLA.

E. To the maximum extent practicable, the Government and the Non-Federal Sponsor shall perform their responsibilities under this Agreement in a manner that will not cause liability to arise under CERCLA.

ARTICLE XVI - NOTICES

A. Any notice, request, demand, or other communication required or permitted to be given under this Agreement shall be deemed to have been duly given if in writing and either delivered personally or by telegram or mailed by first-class, registered, or certified mail, as follows:

If to the Non-Federal Sponsor:
County of Saginaw
ATTN: Public Works Commissioner
111 S. Michigan Ave.
Saginaw, Michigan 48602-2086

If to the Government:
U.S. Army Corps of Engineers, Detroit District
Planning Division
ATTN: Principal Planner
P.O. Box 1027
Detroit, Michigan 48231-1027

B. A party may change the address to which such communications are to be directed by giving written notice to the other party in the manner provided in this Article.

C. Any notice, request, demand, or other communication made pursuant to this Article shall be deemed to have been received by the addressee at the earlier of such time as it is actually received or seven calendar days after it is mailed.

ARTICLE XVII - CONFIDENTIALITY

To the extent permitted by the laws governing each party, the parties agree to maintain the confidentiality of exchanged information when requested to do so by the providing party.

ARTICLE XVIII - HISTORIC PRESERVATION

A. The Government, as it determines necessary for the *Project*, shall perform any identification, survey, or evaluation of historic properties.

1. Any costs of identification, survey, and evaluation of historic properties determined by the Government to be attributable to construction of the *general navigation features* shall be included in *total costs of construction of the general navigation features* and shared in accordance with the provisions of this Agreement.

2. Any costs of identification, survey, and evaluation of historic properties determined by the Government to be attributable to operation and maintenance of the *general navigation features* shall be considered financial obligations for operation and maintenance of the *general navigation features* and shared in accordance with Article II.H. of this Agreement.

B. The Government, as it determines necessary for the *Project*, shall perform any archeological data recovery activities associated with historic preservation. As specified in Section 7(a) of Public Law 86-523, as renumbered and amended by Public Law 93-291 (16 U.S.C. Section 469c(a)), the costs of archeological data recovery activities associated with

historic preservation shall be borne entirely by the Government and shall not be included in *total costs of construction of the general navigation features*, up to the statutory limit of one percent of the total amount authorized to be appropriated to the Government for the *general navigation features*.

C. The Government shall not incur costs for archeological data recovery activities that exceed the statutory one percent limit specified in paragraph B. of this Article unless and until the Assistant Secretary of the Army (Civil Works) has waived that limit (and the Secretary of the Interior has concurred in the waiver) in accordance with Section 208(3) of Public Law 96-515, as amended (16 U.S.C. Section 469c-2(3)).

1. Any costs of archeological data recovery activities that exceed the one percent limit and are determined by the Government to be attributable to construction of the *general navigation features* shall be included in *total costs of construction of the general navigation features* and shared in accordance with the provisions of this Agreement.

2. Any costs of archeological data recovery activities that exceed the one percent limit and are determined by the Government to be attributable to operation and maintenance of the *general navigation features* shall be considered financial obligations for operation and maintenance of the *general navigation features* and shared in accordance with Article II.H. of this Agreement.

ARTICLE XIX - THIRD PARTY RIGHTS, BENEFITS, OR LIABILITIES

Nothing in this Agreement is intended, nor may be construed, to create any rights, confer any benefits, or relieve any liability, of any kind whatsoever in any third person not party to this Agreement.

ARTICLE XX - NON-LIABILITY OF OFFICERS AND EMPLOYEES

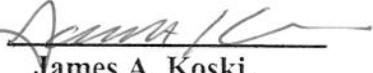
No officer, agent, consultant, or employee of the Non-Federal Sponsor, nor any officer, agent, consultant, or employee of the Government, may be charged personally, or held liable, under the terms or provisions of this Agreement because of any breach, attempted breach, or alleged breach thereof, except as provided in Section 912(b) of the Water Resources Development Act of 1986, Public Law 99-662, as amended (42 U.S.C. 1962d-5b note), or other applicable law.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement, which shall become effective upon the date it is signed by the U.S. Army District Engineer, Detroit District.

DEPARTMENT OF THE ARMY

COUNTY OF SAGINAW, MICHIGAN

BY: 
Mike B.K. Fulford, P.E., REM
Acting District Engineer

BY: 
James A. Koski,
Public Works Commissioner
Saginaw County, Michigan

DATE: 9/28/05

DATE: 9-21-05

CERTIFICATE OF AUTHORITY

I, Andre R. Borrello, do hereby certify that I am the principal legal officer of the County of Saginaw, Michigan, that the County of Saginaw, Michigan is a legally constituted public body with full authority and legal capability to perform the terms of the Agreement between the Department of the Army and the County of Saginaw, Michigan in connection with the Construction of Dredged or Excavated Material Disposal Facility from the Existing General Navigation Features at Upper Saginaw River, Michigan, and to pay damages in accordance with the terms of this Agreement, if necessary, in the event of the failure to perform, as required by Section 221 of Public Law 91-611, as amended (42 U.S.C. Section 1962d-5b), and that the persons who have executed this Agreement on behalf of the County of Saginaw, Michigan have acted within their statutory authority.

IN WITNESS WHEREOF, I have made and executed this certification this
27th day of September 2005.



Andre R. Borrello

Counsel for County of Saginaw, Michigan

CERTIFICATION REGARDING LOBBYING

The undersigned certifies, to the best of his or her knowledge and belief that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.



James A. Koski
Public Works Commissioner
Saginaw County, Michigan

DATE: 9-21-05

OPERATIONAL MANAGEMENT PLAN

**UPPER SAGINAW RIVER
DREDGED MATERIAL DISPOSAL FACILITY
SAGINAW RIVER, MICHIGAN
JUN 2008**

APPENDIX E

**RESPONSIBLE
DETROIT DISTRICT PERSONNEL**

OPERATIONAL MANAGEMENT PLAN

**UPPER SAGINAW RIVER
DREDGED MATERIAL DISPOSAL FACILITY
SAGINAW RIVER, MICHIGAN
JUN 2008**

APPENDIX E

RESPONSIBLE USACE, DETROIT DISTRICT PERSONNEL

The following individuals from USACE, Detroit District should be contacted in the order indicated, if emergency assistance is required concerning the dredged material disposal facility.

Chief, Detroit Area Office	6309 W. Jefferson Bldg 414 Detroit, Michigan 48209 313-226-1320
Chief, Technical Services Branch	477 Michigan Avenue Detroit, Michigan 48226 313-226-6797
Chief, Operations Office	477 Michigan Avenue Detroit, Michigan 48226 313-226-5013
Chief, Engineering & Technical Services Division	477 Michigan Avenue Detroit, Michigan 48226 313-226-6444
Deputy District Engineer	477 Michigan Avenue Detroit, Michigan 48226 313-26-6572
District Engineer	477 Michigan Avenue Detroit, Michigan 48226 313-226-6762

Normal Duty Hours are 8:00 am to 4:30 pm Monday through Friday.
Refer all normal O & Maintenance inquiries, requests, etc., to:

District Engineer (Attention: Chief, Operations Office)
U.S. Army Corps of Engineers, Detroit
P. O. Box 1027, Detroit, Michigan 48231

OPERATIONAL MANAGEMENT PLAN

**UPPER SAGINAW RIVER
DREDGED MATERIAL DISPOSAL FACILITY
SAGINAW RIVER, MICHIGAN
JUN 2008**

APPENDIX F

401 CERTIFICATION



JENNIFER M. GRANHOLM
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING



STEVEN E. CHESTER
DIRECTOR

March 16, 2005

Mr. Michael K. O'Bryan
Department of the Army
Detroit District, Corps of Engineers
P.O. Box 1027
Detroit, Michigan 48231-1027

Dear Mr. O'Bryan:

The Michigan Department of Environmental Quality (DEQ) issued a Section 401 Water Quality Certification for the Department of the Army's Upper Saginaw River Navigational Dredging Project and Associated Dredged Materials Disposal Facility (DMDF) on March 14, 2005. The enclosed Section 401 Water Quality Certification (Certification) contains specific navigational dredging and DMDF operational requirements, DMDF effluent limitations and monitoring requirements and other conditions that must be complied with for DEQ authorization. Please review the conditions of this Certification carefully.

If you have any questions regarding the enclosed Certification, please contact me.

Sincerely,

Diana Klemans, Chief
Surface Water Assessment Section
Water Bureau
517-335-4121

dk:rm

Enclosure

**Michigan Department of Environmental Quality
Certification Under Section 401 of the
Federal Clean Water Act**

In the matter of: Upper Saginaw River Navigational Dredging Project and Associated
Dredged Materials Disposal Facility
Department of the Army
Detroit District, Corps of Engineers

The Michigan Department of Environmental Quality (MDEQ) certifies that the Upper Saginaw River navigational dredging project and Dredged Materials Disposal Facility (DMDF) located in Saginaw and Bay Counties will comply with Section 401 of the federal Clean Water Act and the Michigan Water Quality Standards (MWQS), provided the conditions set forth in this Certification are met. This Certification is based on the April 28, 2004 Detroit District of the Army Corps of Engineers (COE) request letter which was received by the MDEQ on April 30, 2004, subsequent submittals from the COE and other information contained in the official files of the MDEQ, Water Bureau (WB). This Certification regulates: 1) the navigational dredging operations and transportation of dredged materials to the DMDF, and 2) the discharge of sediment dewatering effluent and storm water from the DMDF's outfall 001 to the Saginaw River. No other discharges to waters of the state are authorized by this Certification.

Certification Conditions:

1.0 Upper Saginaw River Navigational Dredging - Operational Requirements

1.1 The navigational dredging operations and transportation of dredged materials to the DMDF shall be restricted to the Saginaw River, from approximately 4.7 miles upstream from the entrance to the upstream limits of the navigation channel, generally referred to as the Upper Saginaw River.

1.2 Open water disposal of sediments associated with this project shall not be allowed.

1.3 Dredging shall be conducted in a manner to ensure that there are no unacceptable impacts on water quality as a result of this project.

1.4 The COE shall submit, to the Saginaw Bay WB District Supervisor (see Condition 23.0), a work plan for each construction season, for all dredging and transportation operations that demonstrates that the requirements of Condition 1.3 will be met. The work plan shall include detailed procedures for all dredging, transportation and monitoring methods appropriate to address the following concerns: the potential resuspension and downstream movement of contaminants and/or materials or oils and films, the potential instability of sediments along the boundaries of the navigational channel following navigational dredging activities, the concentrations of the newly exposed surficial sediment following the navigational dredging, the potential impacts to fish populations as a result of dredging activities, potential spread of invasive species, and emergency response and contingency procedures to address potential spills.

1.5 The COE shall notify the Saginaw Bay WB District Supervisor 30 days prior to initiation of dredging operations for each dredging season.

1.6 The COE shall provide written notification to the Saginaw Bay WB District Supervisor within 10 days after completion of dredging operations for each dredging season.

2.0 DMDF - Operational Requirements

2.1 The DMDF shall be operated and managed as described in Attachment A unless modifications are needed to ensure that MWQS and the limitations in this Certification are met.

2.2 A Management Plan shall be prepared for the DMDF which preserves the long term integrity of the facility for contaminant containment, includes closure requirements to meet solid waste requirements, meets operational water quality discharge requirements, specifies actions required to address any waterfowl botulism and bald eagle nesting issues, minimizes the exposure of wildlife to contaminants at the DMDF, and is complementary with the adjacent Wetland Mitigation Area and State Game Area. This Management Plan shall be submitted to the Land and Water Management Division, Saginaw Bay District Supervisor (see Condition 23.0). The plan shall be approved by the DEQ prior to the disposal of Saginaw River dredged material.

2.3 The DMDF shall be authorized to discharge not more than 1.29 million gallons per day (2 cubic feet per second) of sediment dewatering water and an unspecified amount of storm water to the Saginaw River via outfall 001 during the periods of April 1-May 31 or November 1-December 31.

2.4 The discharge from the DMDF to the Saginaw River is limited to a total of 14 days during a calendar year. These 14 days shall occur sequentially, unless otherwise approved by the Saginaw Bay WB District Supervisor. If the DMDF requires discharge during a second period of time in a calendar year or for longer than 14 days, the additional days or other discharge period must be approved in advance by the Saginaw Bay WB District Supervisor.

2.5 Prior to commencing any discharge of effluent via outfall 001, authorization to discharge must be received from the Saginaw Bay WB District Supervisor, as specified in Condition 4.0.

2.6 The conveyance of the DMDF wastewaters and the subsequent discharge to the Saginaw River shall be in an erosion free manner.

2.7 The COE shall, at all times, properly operate and maintain all treatment or control facilities or systems installed or used by the COE to achieve compliance with the terms and conditions of this Certification. Proper operation and maintenance includes adequate laboratory controls and appropriate quality assurance procedures for all analyses.

3.0 DMDF - Outfall 001 Effluent Limitations and Monitoring

3.1 The effluent discharged from the DMDF through outfall 001 to the Saginaw River shall be monitored and reported as specified in the conditions of this Certification and shall not exceed any limitations specified below.

<u>Parameter</u>		<u>Units</u>	<u>Frequency</u>
2,3,7,8-Tetrachlorodibenzo-p-dioxin - - see Condition 3.6			
2,3,7,8-TCDD	No Net Increase *	ppq	2X Weekly
2,3,7,8-TCDD Toxicity Equivalence Concentration (TEC)	No Net Increase *	ppq	2X Weekly
Total Polychlorinated Biphenyls (PCB)			
See Condition 3.7	No Net Increase *	µg/l	2X Weekly
Total Mercury			
See Condition 3.8	No Net Increase *	ng/l	2X Weekly
Total Dissolved Solids	No Net Increase *	mg/l	2X Weekly
pH **	Minimum 6.5	Maximum 9	S.U. Frequency 2X Weekly

	<u>Concentration</u>			<u>Loading</u>			
	<u>Average</u>	<u>Daily</u>		<u>Average</u>	<u>Daily</u>		
Acute Toxicity							
See Condition 3.9	---	1	TU _a	---	---	---	Weekly
Total Phosphorus (as P)	0.5	---	mg/l	5.4	---	lbs/day	2X Weekly
Total Suspended Solids	40	100	mg/l	430	1100	lbs/day	2X Weekly
Ammonia Nitrogen (as N)	---	(report)	mg/l	---	---	---	2X Weekly
Temperature	(report)	(report)	°F	---	---	---	2X Weekly
CBOD5	---	(report)	mg/l	---	---	---	2X Weekly
Flow***	---	---	---	(report)	(report)	MGD	Daily
Available Cyanide	(report)	(report)	µg/l	(report)	(report)	lbs/day	2X Weekly
Total Arsenic	(report)	(report)	µg/l	(report)	(report)	lbs/day	2X Weekly
Total Cadmium	(report)	(report)	µg/l	(report)	(report)	lbs/day	2X Weekly
Total Chromium	(report)	(report)	µg/l	(report)	(report)	lbs/day	2X Weekly
Total Copper	(report)	(report)	µg/l	(report)	(report)	lbs/day	2X Weekly
Total Lead	(report)	(report)	µg/l	(report)	(report)	lbs/day	2X Weekly
Total Nickel	(report)	(report)	µg/l	(report)	(report)	lbs/day	2X Weekly
Total Zinc	(report)	(report)	µg/l	(report)	(report)	lbs/day	2X Weekly
Oil and Grease	---	(report)	mg/l	---	---	---	2X Weekly
Outfall Observation	---	---	---	(report)	---	---	Daily

* See Condition 3.11

** For pH, report the maximum value of any individual sample taken during the discharge period on the monitoring report and the minimum value of any individual sample taken during the discharge period on the monitoring report.

*** For Flow, report the total flow and the estimated amount of sediment dewatering effluent and storm water on the monitoring report.

All samples are to be collected as grab samples.

3.2 Narrative Standard

The DMDF effluent receiving water shall contain no unnatural turbidity, color, oil films, floating solids, foams, settleable solids, or deposits, in quantities which are or may become injurious to any designated use, as a result of this discharge.

3.3 DMDF Effluent Monitoring Location

Samples, measurements, and observations taken in compliance with the monitoring requirements as specified above for each authorized period of discharge of DMDF effluent shall be taken at outfall 001 (the outlet weir) prior to the discharge to the Saginaw River.

3.4 Outfall Observation

Any unusual characteristics of outfall 001 effluent (i.e., unnatural turbidity, color, oil film, floating solids, foams, settleable solids, suspended solids, or deposits) shall be reported within 24 hours to the Saginaw Bay WB District Supervisor followed with a written report within five (5) days detailing the findings of the investigation and the steps taken to correct the condition.

3.5 Metals and Cyanide - Quantification Levels of Outfall 001 Effluent

The quantification level for metals and cyanide in outfall 001 effluent shall not exceed the value listed below unless a higher level is appropriate because of sample matrix interference. If a higher quantification level is appropriate because of sample matrix interference, justification shall be submitted to the Saginaw Bay WB District Supervisor within 30 days of such an occurrence.

<u>Parameter</u>	<u>Quantification Level</u>	<u>EPA Method</u>
Total Arsenic	10 µg/l	EPA Approved
Total Cadmium	0.2 µg/l	EPA Approved
Total Chromium	20 µg/l	EPA Approved
Total Copper	1 µg/l	EPA Approved
Total Lead	1 µg/l	EPA Approved
Total Nickel	2 µg/l	EPA Approved
Total Zinc	5 µg/l	EPA Approved
Available Cyanide	1.0 µg/l	EPA Method 4500-CN-G

3.6 Dioxins and Furans - Monitoring and Reporting of Outfall 001 Effluent

3.6.1 The sampling procedures, preservation and handling, and analytical protocol for compliance monitoring of outfall 001 effluent for polychlorinated dibenzo-p-dioxin (PCDD) and polychlorinated dibenzofuran (PCDF) congeners shall be in accordance with EPA Method 1613, Revision B. The quantification levels (i.e., minimum levels) for the seventeen PCDD and PCDF congener analytes in EPA Method 1613 are listed below in parts per quadrillion (ppq) in parentheses after each congener. These quantification levels shall be achieved unless higher levels are appropriate because of sample matrix interference. If a higher quantification level(s) is appropriate for any of the specified 17 congeners because of sample matrix interference, justification shall be submitted to the Saginaw Bay WB District Supervisor within 30 days of such an occurrence.

<u>PCDD Congeners</u>		<u>PCDF Congeners</u>	
2,3,7,8-TCDD	(10 ppq)	2,3,7,8-TCDF	(10 ppq)
1,2,3,7,8-PeCDD	(50 ppq)	1,2,3,7,8-PeCDF	(50 ppq)
1,2,3,4,7,8-HxCDD	(50 ppq)	2,3,4,7,8-PeCDF	(50 ppq)
1,2,3,6,7,8-HxCDD	(50 ppq)	1,2,3,4,7,8-HxCDF	(50 ppq)

1,2,3,7,8,9-HxCDD (50 ppq)
1,2,3,4,6,7,8-HpCDD (50 ppq)
OCDD (100 ppq)

1,2,3,6,7,8-HxCDF (50 ppq)
2,3,4,6,7,8-HxCDF (50 ppq)
1,2,3,7,8,9-HxCDF (50 ppq)
2,3,4,6,7,8-HpCDF (50 ppq)
1,2,3,4,7,8,9-HpCDF (50 ppq)
OCDF (100 ppq)

3.6.2 For the purpose of reporting 2,3,7,8-TCDD concentrations in outfall 001 effluent and background Saginaw River water on the monitoring reports (see Conditions 3.11 and 7.0), sample measurements which are below the quantification level set forth in Condition 3.6.1 shall be treated as zero (0). The 2,3,7,8-TCDD concentrations shall be reported on the monitoring reports along with the median of those values. Measurements of 2,3,7,8-TCDD that are quantified or less than the quantification level but are equal to or greater than the detection level also shall be included on the monitoring reports.

3.6.3 Condition 3.6.1 lists the PCDD and PCDF congeners to be monitored in outfall 001 effluent and also included in the calculation to assess compliance with the 2,3,7,8-TCDD toxicity equivalence concentration (TEC) limitation. The TEC value for a PCDD/PCDF sample shall be calculated as specified in Rule 1209 of the Michigan Part 8 Rules. For purposes of reporting TEC values on the monitoring reports (see Conditions 3.11 and 7.0), a concentration value of zero shall be used in the TEC calculations for any individual congener which is not present at or above its respective quantification level set forth in Condition 3.6.1. The TEC values shall be reported on the monitoring reports along with the arithmetic mean of those TEC values. Measurements of any PCDD or PCDF congener specified in Condition 3.6.1 that are quantified or less than their respective quantification levels but are equal to or greater than their respective detection levels also shall be included on the monitoring reports.

3.7 PCBs -Monitoring and Reporting of Outfall 001 Effluent

3.7.1 The sampling procedures, preservation and handling, and analytical protocol for compliance monitoring for total PCB shall be in accordance with EPA Method 608. The quantification level shall be 0.1 µg/l, unless a higher level is appropriate because of sample matrix interference. If a higher quantification level is appropriate because of sample matrix interference, justification shall be submitted to the Saginaw Bay WB District Supervisor within 30 days of such an occurrence.

3.7.2 Total PCB shall be defined as the sum of the individual analytical results for each of the aroclors 1016, 1221, 1232, 1242, 1248, 1254, and 1260 with any aroclor result less than the quantification level being treated as a zero. For the purpose of reporting on the monitoring reports, the COE shall calculate the concentration of total PCB in this same manner, however, the result of any individual aroclor measurement less than the quantification level but greater than the detection level shall be included on the monitoring reports. The median of the total PCB concentrations shall also be included on the monitoring reports.

3.8 Total Mercury – Quantification Level and Monitoring of Outfall 001 Effluent

3.8.1 The analytical protocol for total mercury analysis in outfall 001 effluent shall be in accordance with EPA Method 1631, Revision E, "Mercury in Water by Oxidation, Purge and Trap, and Cold Vapor Atomic Fluorescence Spectrometry." The quantification level for total mercury shall be 0.5 ng/l, unless a higher level is appropriate because of sample matrix

interference. Justification for higher quantification levels shall be submitted to the Saginaw Bay WB District Supervisor within 30 days of such an occurrence.

3.8.2 The use of clean technique sampling procedures is strongly recommended. Guidance for clean technique sampling is contained in: EPA Method 1669; Sampling Ambient Water for Trace Metals at EPA Water Quality Criteria Levels (Sampling Guidance); EPA-821-R96-001/July 1996. Information and data documenting the sampling and analytical protocols and data acceptability shall be submitted to the Saginaw Bay WB District Supervisor upon request.

3.9 Acute Toxicity - Monitoring and Reporting of Outfall 001 Effluent

3.9.1 Test species shall include fathead minnow and either *Daphnia magna*, *Daphnia pulex* or *Ceriodaphnia dubia*. Testing and reporting procedures shall follow procedures contained in EPA/600/4-90/027F, "Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms." The maximum value of the tests shall be included on the monitoring reports (Condition 7.0). The results shall not be averaged. After two species toxicity tests have been completed for two discharge periods on outfall 001 effluent and upon approval of the Saginaw Bay WB District Supervisor, the acute toxicity tests may be performed using the more sensitive species selected from the acute toxicity results previously generated. If a more sensitive species cannot be identified, the acute toxicity tests shall be performed with both species. Toxicity test data acceptability is contingent upon the validation of the test method by the testing laboratory. Such validation shall be submitted to the Saginaw Bay WB District Supervisor upon request.

3.9.2 The COE shall be immediately notified by the testing laboratory at the end of any acute toxicity test that shows an exceedance of the 1.0 acute toxic unit (TU_a) limit. The COE in turn must immediately notify the Saginaw Bay WB District Supervisor of such a toxicity test result. The Saginaw Bay WB District Supervisor will review the toxicity data and notify the COE of what actions the COE must take. These actions may include immediate cessation of the discharge from outfall 001, additional acute toxicity testing, and/or implementation of a toxicity reduction evaluation.

3.10 GC/MS Scans of Outfall 001 Effluent

The COE shall monitor outfall 001 effluent for organic priority pollutants using EPA Methods 624 and 625 or other equivalent EPA approved methods. Additionally, for any significant unidentified peak detected using gas chromatography/ mass spectroscopy (GC/MS), the COE shall attempt to identify the constituent and estimate its associated concentration. The tasks of peak identification and concentration estimation shall be performed in accordance with the best professional judgment of an analyst with expertise in GC/MS. A significant unidentified peak shall be considered to be any peak with a response that is greater than 50% of an appropriate internal standard used in the scans. The COE shall summarize and submit all analytical results to the Saginaw Bay WB District Supervisor on the monitoring reports.

3.11 No Net Increase Effluent Limitations

3.11.1 Effluent discharged from outfall 001 shall be regulated using "No Net Increase" limitations for:

2,3,7,8- Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD)

2,3,7,8- Tetrachlorodibenzo-p-dioxin Toxicity Equivalence Concentration (TEC)

Total Polychlorinated Biphenyls (PCB)
Total Mercury
Total Dissolved Solids (TDS)

3.11.2 "No Net Increase" limitations for the chemicals specified in Condition 3.11.1 prohibit their discharge from outfall 001 at concentrations above their respective background Saginaw River concentration. The background concentration of TEC, total mercury and total dissolved solids shall be the arithmetic mean of their respective concentrations measured in Saginaw River water samples. The background concentration of 2,3,7,8-TCDD and total PCB shall be their respective maximum and median concentrations measured in Saginaw River water samples. The COE shall collect Saginaw River water samples from a point in the river (mid-channel and mid-depth) located just upstream of outfall 001, except when the river segment(s) targeted for navigational dredging is located upstream of outfall 001. In such cases, the COE shall collect the Saginaw River water samples from a point in the river (mid-channel and mid-depth) just upstream of the river segment(s) targeted for navigational dredging. The COE shall determine background concentrations for the above chemicals each time a dredging event occurs by collecting weekly water samples from the Saginaw River beginning two (2) weeks prior to the dredging event and weekly during dredging. The number of water samples collected for background determination does not need to exceed ten (10) per dredging season. A summary of all analytical data collected by the COE to determine Saginaw River background concentrations for the above chemicals shall be submitted to the Saginaw Bay WB District Supervisor within thirty (30) days of the COE receiving all analytical results. Information documenting the location of the Saginaw River sampling location shall be recorded and provided to the Saginaw Bay WB District Supervisor upon request.

3.11.3 Determination of compliance with "No Net Increase" limitations for TEC, total mercury and total dissolved solids shall be through the formula: arithmetic mean effluent concentration – arithmetic mean river concentration. Any result greater than zero (0) for TEC, total mercury and/or total dissolved solids, is a specific violation of this Certification. The COE shall be considered to be in compliance with the "No Net Increase" limitations for the above chemicals if the COE shows a zero net increase for each chemical, provided that the COE is also in full compliance with the Operational Efficiency Requirements in Condition 5.0 and, as applicable, the Corrective Action Plan requirements in Condition 6.0. This paragraph does not authorize the discharge of PCDD or PCDF congeners at levels which are injurious to the designated uses of the waters of the state or which constitute a threat to the public health or welfare.

For determination of compliance with "No Net Increase" limitations for 2,3,7,8-TCDD and total PCB, comparisons to background shall include both the maximum and median values. The evaluation of no net increase for the parameters 2,3,7,8-TCDD and total PCB shall be through the formulae: 1) maximum effluent concentration – maximum river concentration; and 2) median effluent concentration – median river concentration. Any result greater than zero (0) for 2,3,7,8-TCDD and total PCB is a specific violation of this Certification. The COE shall be considered to be in compliance with the "No Net Increase" limitations for the above chemicals, if the COE shows a zero net increase for each chemical, provided that the COE is also in full compliance with the Operational Efficiency Requirements in Condition 5.0 and, as applicable, the Corrective Action Plan requirements in Condition 6.0. This paragraph does not authorize the discharge of 2,3,7,8-TCDD or total PCB at levels which are injurious to the designated uses of the waters of the state or which constitute a threat to the public health or welfare.

4.0 DMDF Pre-Release Wastewater Characterization

The COE shall characterize wastewaters within the DMDF prior to discharging effluent via outfall 001 to the Saginaw River. The characterization of the DMDF wastewaters to be discharged shall contain sufficient sample(s) to show to the Saginaw Bay WB District Supervisor that the outfall 001 discharge from the DMDF will meet the limitations specified in Condition 3.1 and will satisfy all applicable requirements of the MWQS. The characterization shall include all chemicals/parameters included in Condition 3.0 and shall be completed prior to each discharge period. The DMDF wastewater characterization data and Saginaw River background data shall be summarized in a report and submitted to the Saginaw Bay WB District Supervisor at least 10 business days prior to the initiation of the discharge. The report shall include comparisons of the DMDF wastewater to the Saginaw River background concentrations as described in Condition 3.11.3. Following Saginaw Bay WB District Supervisor review of the characterization data and upon written approval by the Saginaw Bay WB District Supervisor, the COE may begin discharging effluent from the DMDF as specified by this Certification. If the Saginaw Bay WB District Supervisor's review of the characterization data indicates that the DMDF wastewaters will not meet the conditions of this Certification and all applicable requirements of the MWQS, the Saginaw Bay WB District Supervisor will notify the COE in writing that a discharge via outfall 001 cannot occur until the COE takes appropriate actions to improve potential DMDF effluent quality and demonstrates the efficacy of the actions taken by the COE.

5.0 DMDF Operation Efficiency Requirements

The COE shall operate the DMDF in a manner to: 1) maximize removal of total solids and pollutants from the outfall 001 effluent; and 2) to ensure that the outfall 001 effluent complies with the limitations specified in Condition 3.1 and all applicable requirements of the MWQS. If the sampling of the effluent specified in Condition 3.0 indicates the presence of detectable levels of PCBs, and/or dioxins/furans, or the presence of other chemicals or parameters above the limitations specified in Condition 3.1, the COE shall immediately notify the Saginaw Bay WB District Supervisor of this finding and provide a written notification to the Saginaw Bay WB District Supervisor of such findings within 7 days. Upon written notification by the Saginaw Bay WB District Supervisor, the COE shall immediately begin implementation of any response action(s) specified by the Saginaw Bay WB District Supervisor except that oral notification from the Saginaw Bay WB District Supervisor may be used to notify the COE of the need to terminate the discharge as noted in Condition 3.9.2. The required responses may include, but are not limited to, cessation of the effluent discharge, temporarily terminate addition of dredge spoils to the DMDF, increased monitoring frequencies as specified, and preparation of a Correction Action Plan (CAP) consistent with the requirements contained in Condition 6.0.

6.0 DMDF Corrective Action Plan Requirements

The COE shall develop a Correction Action Plan (CAP) upon written notification by the Saginaw Bay WB District Supervisor, as specified by Condition 5.0. The objective of the CAP is to ensure that the effluent discharged from the DMDF meets the limitations specified in Condition 3.1 and all applicable requirements of the MWQS. The CAP must specify improvements in the operational and/or water treatment aspects of the DMDF such that the effluent will meet the limitations specified in Condition 3.1 and all applicable requirements of the MWQS. The CAP shall include a schedule for implementation of the actions identified in the CAP. Upon written approval of the CAP by the Saginaw Bay WB District Supervisor, the COE shall immediately

begin implementation of the CAP consistent with such approval. The corrective actions identified in the CAP must be fully implemented and the efficacy of the corrective actions must be documented prior to requesting approval to initiate another discharge of effluent from the DMDF to the Saginaw River.

7.0 DMDF Reporting Requirements and Monitoring Reduction

7.1 After the termination of each discharge period, the COE shall submit to the Saginaw Bay WB District Supervisor a summary report of the outfall 001 monitoring results for that discharge period. The report shall include all analytes/parameters included in Condition 3.0. The report shall be submitted to the Saginaw Bay WB District Supervisor within 30 days of the COE receiving all analytical results for the discharge period.

7.2 After the submittal of outfall 001 effluent data from a discharge period, the COE may request, in writing, Saginaw Bay WB District Supervisor approval of a reduction in monitoring frequencies and/or analytes required by Condition 3.0; and/or a reduction in analytes required to be monitored by Condition 4.0. This request shall contain an explanation and supporting information as to why the reduced monitoring is appropriate. Upon receipt of written approval from the Saginaw Bay WB District Supervisor and consistent with such approval, the COE may reduce the monitoring frequency or analytes. The Saginaw Bay WB District Supervisor may revoke the approval for reduced monitoring (analytes and/or frequency) at any time, but shall provide notification to the COE at least five (5) business days prior to the required monitoring.

7.3 For any summary reports or any data submittals required to fulfill any reporting requirements of this Certification or those otherwise specified by the Saginaw Bay WB District Supervisor, the COE shall submit two copies to the Saginaw Bay WB District Supervisor.

8.0 Test Procedures

Test procedures for the analysis of pollutants shall be EPA approved unless otherwise approved by the Saginaw Bay WB District Supervisor.

9.0 Recording and Retention of Results

9.1 For each measurement or sample taken pursuant to the requirements of this Certification, the COE shall record the following information: 1) the exact place, date, and time of measurement or sampling; 2) the person(s) who performed the measurement or sample collection; 3) the dates the analyses were performed; 4) the person(s) who performed the analyses; 5) the analytical techniques or methods used; 6) the date of and person responsible for equipment calibration; 7) the results of all required analyses. The COE shall also retain all information, (either directly, or indirectly via the analytical laboratory) which documents the quality control/quality assurance of the data generated to satisfy the conditions of this Certification, as well as the raw data associated with analytical results for data submitted in fulfillment of this Certification.

9.2 All records and information resulting from the monitoring activities required by this Certification including all records of analyses performed and calibration and maintenance of instrumentation and recordings from continuous monitoring instrumentation shall be retained by

the COE for a minimum of five (5) years, or longer if requested by the Saginaw Bay WB District Supervisor.

10.0 Additional Monitoring by COE

If the COE monitors any pollutant at the location(s) designated herein more frequently than required by this Certification, using approved analytical methods as specified above, the results of such monitoring shall be included in the monitoring reports submitted to the Saginaw Bay WB District Supervisor. Such increased frequency shall also be indicated.

11.0 Temporary Modification of Operational Requirements

Operational requirements specified in this Certification may be temporarily suspended for completion of necessary inspections, maintenance activities, or in response to emergency, upon written approval by the Saginaw Bay WB District Supervisor. The COE shall submit a written request for such suspension, including an explanation of the need for the suspension and the requested time period for the suspension.

12.0 Duty to Comply

12.1 All discharges authorized herein shall be consistent with the terms and conditions of this Certification. The discharge of any pollutant identified in this Certification more frequently than or at a level in excess of that authorized shall constitute a violation of the Certification.

12.2 It is the duty of the COE to comply with all the terms and conditions of this Certification. Any noncompliance with the effluent limitations, conditions, or terms of this Certification constitutes a violation of the Michigan Act and/or the Federal Act and constitutes grounds for enforcement action; for certification termination, revocation and reissuance, or modification; denial of an application for certification renewal.

13.0 Right of Entry

The COE shall allow the Saginaw Bay WB District Supervisor, through any agent appointed by the Saginaw Bay WB District Supervisor upon the presentation of credentials:

13.1 To enter upon the COE's premises where an effluent source is located to inspect process facilities, treatment works, monitoring methods and equipment regulated or required under this Certification; and to sample groundwater, waters or sediments within the DMDF, and/or any discharge of pollutants; and

13.2 At reasonable times to view and have copies of any records required to be kept under the terms and conditions of this Certification.

14.0 Discharge to Groundwater

This Certification does not authorize a discharge from the DMDF to groundwater. The COE will ensure that the DMDF complies with all applicable laws.

15.0 Facility Construction

This Certification is not an authorization or approval by the MDEQ-WB of the construction design of the DMDF or of any physical structures or facilities.

16.0 Civil and Criminal Liability

Nothing in this Certification shall be construed to relieve the COE from civil or criminal penalties for noncompliance, whether or not such noncompliance is due to factors beyond the COE's control, such as accidents, equipment breakdowns, labor disputes, or contractor performance.

17.0 Oil and Hazardous Substance Liability

Nothing in this Certification shall be construed to preclude the institution of any legal action or relieve the COE from any responsibilities, liabilities, or penalties to which the COE may be subject under Section 311 of the Federal Act except as are exempted by federal regulations.

18.0 State Laws

Nothing in this Certification shall be construed to preclude the institution of any legal action or relieve the COE from any responsibilities, liabilities, or penalties established pursuant to any applicable state or federal law.

19.0 Natural Resources Damages and Penalties

The state reserves the right to seek civil and/or criminal penalties and liabilities under applicable law for natural resource damages that may occur.

20.0 COE Rights

Nothing set forth in Conditions 16.0 – 19.0 shall be construed to waive any rights, defenses or immunities the COE may have.

21.0 Certifications and Approvals

Nothing herein shall relieve the COE from the requirement to obtain any other necessary state, federal or local permits, certifications, licenses, or approvals for the DMDF and navigational dredging operations.

22.0 DMDF – Changes

The COE shall provide written notification to the Saginaw Bay WB District Supervisor within ten days of any change that has or may occur in the structures or operation and maintenance of the DMDF, which may affect compliance with the MWQS, or with the effluent limitations, terms, or conditions of this Certification.

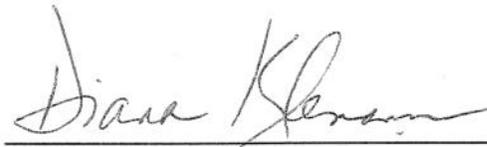
23.0 DEQ Contact Addresses

The Land and Water Management Division and Water Bureau Saginaw Bay District Supervisors' addresses and contact points for consultations, approvals, and submittal of plans and reports as referred to in this Certification are:

Saginaw Bay District Supervisor of the MDEQ-Land and Water Management Division
503 North Euclid Avenue, Suite 1, Bay City, Michigan 48706-2965
Telephone: 989-686-8025, Fax: 989-686-0727

Saginaw Bay District Supervisor of the MDEQ-Water Bureau
503 North Euclid Avenue, Suite 1, Bay City, Michigan 48706-2965
Telephone: 989-686-8025, Fax: 989-684-9799

Issued on March 16, 2005, by the MDEQ and expiring at midnight on March 16, 2025.



Diana Klemans, Chief
Surface Water Assessment Section
Water Bureau

Definition of Terms

2,3,7,8-TCDD means the chemical 2,3,7,8-tetrachlorodibenzo-p-dioxin.

Acute toxic unit (TUa) means 100/LC50 (with the LC50 expressed as a percentage) where the LC50 is determined from an acute whole effluent toxicity (WET) test, which produces a result that is statistically or graphically estimated to be lethal to 50% of the test organisms.

Average concentration is the sum of the daily concentrations determined during a discharge period divided by the number of daily concentrations determined. The calculated average concentration will be used to determine compliance with the average concentration limitation in the Certification. When required by the Certification, report the average concentration on the monitoring reports.

Average loading is the sum of the daily loadings of a parameter divided by the number of daily loadings determined in the discharge period. The calculated average loading will be used to determine compliance with the average loading limitation in the Certification. When required by the Certification, report the average loading on the monitoring reports.

Daily concentration is the sum of the concentrations of the individual samples of a parameter divided by the number of samples taken during any calendar day (or 24 consecutive hours). If the parameter concentration in any sample is less than the quantification limit, regard that value as zero when calculating the daily concentration. The daily concentration will be used to determine compliance with the daily concentration limitation (except for pH) in the Certification. When required by the Certification, report the daily concentrations for the discharge period on the monitoring reports.

Daily loading is the total discharge by weight of a parameter discharged during any calendar day (or 24 consecutive hours). This value is calculated by multiplying the daily concentration by the total daily flow and by the appropriate conversion factor. The daily loading will be used to determine compliance with the daily loading limitation in the Certification. When required by the Certification, report the maximum calculated daily loading for the discharge period on the monitoring reports.

Detection level means the lowest concentration or amount of the target analyte that can be determined to be different from zero by a single measurement at a stated level of probability.

Federal Act - the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1251 et seq.)

Grab sample is a single sample taken at neither a set time nor flow.

LC50 means a statistically or graphically estimated concentration that is expected to be lethal to 50% of a group of organisms under specified conditions.

Michigan Act - Michigan Act 451, Public Acts of 1994, as amended, Part 31.

MGD means million gallons per day.

Part 8 Rules are 1997 MR 7, R323.1201 et seq. of Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451).

Quantification level means the measurement of the concentration of a contaminant obtained by using a specified laboratory procedure calculated at a specified concentration above the detection level. It is considered the lowest concentration at which a particular contaminant can be quantitatively measured using a specified laboratory procedure for monitoring of the contaminant.

Water Quality Standards means the Part 4 Water Quality Standards promulgated pursuant to Part 31 of Act No. 451 of the Public Acts of 1994, as amended, being Rules 323.1041 through 323.1117 of the Michigan Administrative Code.



DEPARTMENT OF THE ARMY
DETROIT DISTRICT, CORPS OF ENGINEERS
BOX 1027
DETROIT, MICHIGAN 48231-1027

IN REPLY REFER TO:

APPENDIX A
UPPER SAGINAW RIVER
Operations and Maintenance Plan

General Facility Information

The U.S. Army Corps of Engineers proposes to dredge material from the Upper Saginaw River Federal navigation channel with disposal at a proposed Dredged Material Disposal Facility (DMDF). The disposal site will be constructed on 281 acres of farmland located within portions of Saginaw and Bay Counties, Michigan. The facility is designed to hold 3.1 million cubic yards of material to be dredged over a minimum 20-year period. It would consist of perimeter dikes, an intake pipe, and a weir to discharge water back to the river after settling. The disposal site is underlain by clay and has 11 feet high clay dikes; 40 feet wide at the toe, 10 feet at the top. It is estimated that average annual maintenance dredging activities would be 150,000 cubic yards per year.

The hydraulic inlet discharge pipeline will be located at the northern end of the DMDF. A stop-log type weir and effluent discharge line will be located at the south end of the DMDF, discharging into the Saginaw River. The dredged material will be pumped into the facility and allowed to settle. Treatment prior to the effluent leaving the site is retention of the water to allow for sufficient settling of the sediments. The large size of the disposal area and use of cross/spur dikes would allow management of the site to provide the greatest length of flow within the confinement area and subsequently the greatest amount of settling. There would be no special treatment or additives to the effluent. The clear supernatant would be monitored at the weir to ensure compliance with the water quality certification.

The effluent discharge line will be located south of the DMDF, discharging into the Saginaw River. The approximate coordinates for the weir 43-51-46 N, 83-88-43 W (degrees, minutes, seconds). Effluent monitoring will take place at the weir.

Dredging and disposal activities could be expected to occur annually depending on shoaling rates and available funding.

The anticipated flow rate from the effluent discharge is from 0.5 to 2 cubic feet per second for a two week period, annually. This discharge would be after sufficient retention time after dredging is completed. The discharge period would typically be in the late fall or early winter and would not cause a temperature change in the river.

Rain events that may cause excess water in the facility will be managed as identified in the water quality certification. An additional discharge period may be required to accommodate managing water release due to storm events and would be coordinated with the MDEQ.

Effluent Monitoring and Control Activities

The Corps of Engineers will operate the DMDF in a manner to maximize removal of total solids from the final effluent and to ensure that the final effluent complies with the limitations in the water quality certification. The disposal site will be monitored to document the effluent discharge. The site water will be monitored prior to discharge to evaluate whether the effluent would meet the water quality certification requirements. This testing information will be coordinated with the Michigan Department of Environmental Quality (MDEQ) a minimum of 10 days prior to a proposed discharge. If the pre-release wastewater characterization meets water quality certification requirements, and the MDEQ approves of the characterization data and authorizes the discharge with a written approval, then the weir would be lowered and the effluent will be released to the Saginaw River. If the sampling indicates that the pre-release wastewater characterization does not meet the water quality certification limitations, then additional settling time would be allowed and the weir logs would not be lowered until further analytical testing demonstrates that the water quality meets the water quality certification.

Water quality monitoring will be conducted twice per week during an active discharge event for the parameters in the water quality certification. The water quality monitoring plan would include samples from the following locations: effluent at weir, and background dredging location (upstream of dredging area). The proposed discharge is anticipated to last for two weeks, at a maximum flow rate of 1.29 million gallons per day (2 cubic feet per second). Therefore, four sampling events are anticipated for each discharge period per year. The effluent samples obtained from the weir and background samples will be analyzed for all parameters required in the water quality certification. Other sampling locations would be analyzed for many of the same parameters, but not necessarily all those identified in the water quality certification.

If any discharge event requires a longer period than 14 days, the additional days must be approved in advance by the MDEQ.

If the limitations in the water quality certification are not met, a correction action plan will be developed by the Corps of Engineers which will include operational improvements to ensure the final effluent meets the water quality certification, and a schedule for implementation of the actions identified. The plan must be approved by the MDEQ. Any corrective actions that are taken will be fully documented and provided prior to initiating subsequent discharges from the facility.

A water quality monitoring report will be provided to the MDEQ within 30 days of receiving all analytical results for the discharge period. A reduction in monitoring is available to the Corps of Engineers with an explanation and supporting information as to why reduced monitoring is appropriate. Any such approval would be after written approval from the MDEQ.

OPERATIONAL MANAGEMENT PLAN

**UPPER SAGINAW RIVER
DREDGED MATERIAL DISPOSAL FACILITY
SAGINAW RIVER, MICHIGAN
JUN 2008**

APPENDIX G

PIPELINE EASEMENT

OPERATIONAL MANAGEMENT PLAN

**UPPER SAGINAW RIVER
DREDGED MATERIAL DISPOSAL FACILITY
SAGINAW RIVER, MICHIGAN
JUN 2008**

APPENDIX H

**GROUNDWATER MONITORING
PLAN**

Groundwater Monitoring Plan

Groundwater monitoring will be performed at the Saginaw River DMDF for the bedrock aquifer wells located outside the perimeter of the DMDF and the shallow wells located on the outside slope of the perimeter dike. The former wells will be monitored to determine the quality the bedrock aquifer and the latter wells will be monitored to determine the quality any shallow groundwater that may be present. All wells will be monitored 3-4 times prior to the usage of the Saginaw River DMDF to establish background conditions. All wells will also be monitored annually during the usage of the Saginaw River DMDF to determine if the DMDF is affecting groundwater quality at the DMDF site.

Four (4) monitoring wells were installed within the useable bedrock aquifer formation outside the perimeter of the Saginaw River DMDF at depths ranging from 90 to 150 feet below the natural ground surface. The locations of the wells in the bedrock aquifer are shown on the attached ground water well location map and are labeled as follows: US-12-05, US-12A-05, US-13-05, US-14-05, and US-15-05. The bedrock aquifer groundwater wells will be monitored for the parameters listed in Table 1.

Fourteen (14) monitoring wells were installed on the outside slope of the perimeter dike of the DMDF at depths ranging from 15 feet to 30 feet below natural ground surface. The location of these shallow groundwater wells are shown on the attached groundwater well location map and are labeled as follows: US-01-08 through US-14-08. The shallow groundwater wells will be monitored for the parameters listed in Table 1.

All monitoring wells will be sampled 3-4 times prior to disposal of dredged material at the DMDF to establish background conditions. Once disposal begins in the DMDF, the monitoring wells will also be sampled annually. The parameters and frequency of well monitoring will be evaluated during the use of the DMDF during the first 5 years and may be modified based on the results obtained during the initial monitoring of the site. Any changes would be coordinated with the MDEQ. Sampling and analysis will be conducted pursuant to RRD Memorandum dated October 22, 2004 (Subject: Sampling and Analysis) and ASTM D6771 (Standard Practice for Low Flow Purging and Sampling for Wells). Proper quality control will be implemented to prevent cross contamination during sampling procedures.

Table 1 –Groundwater Monitoring Parameters and Test Methods

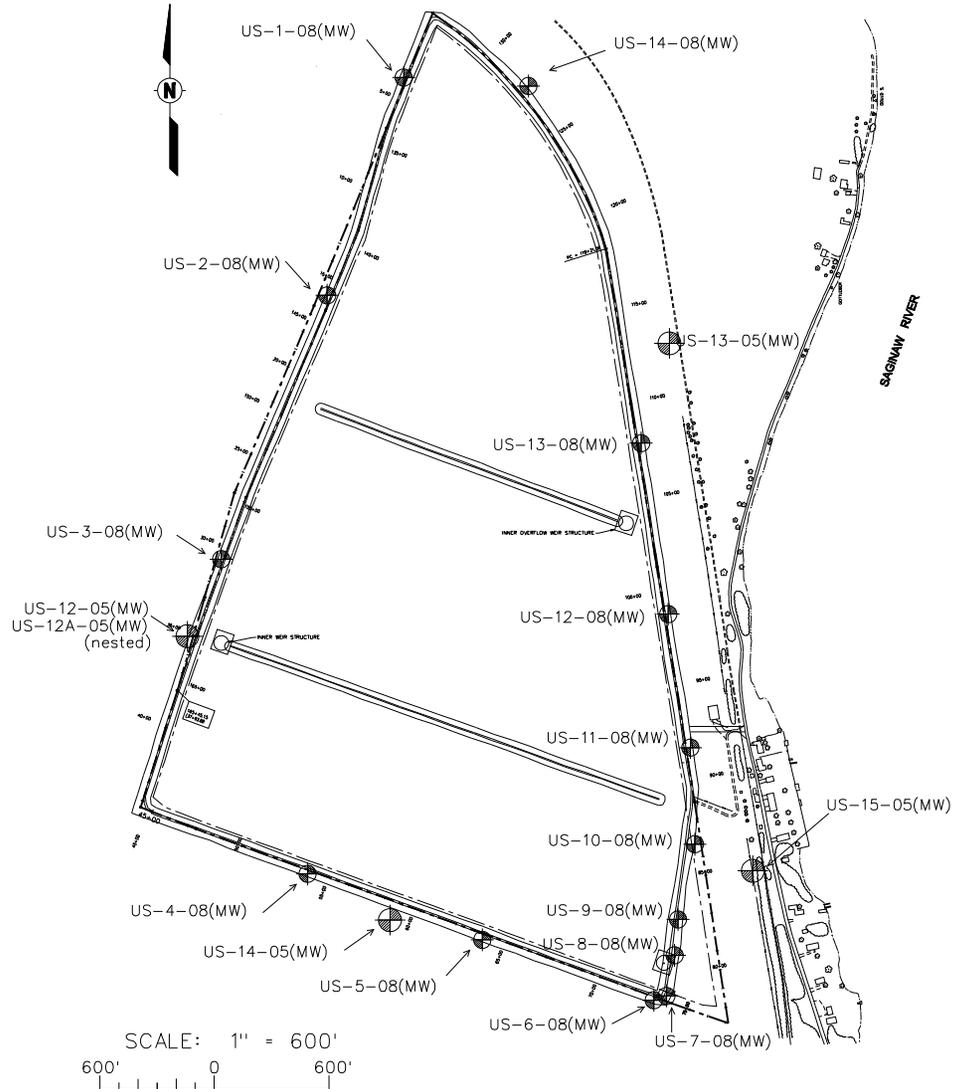
Parameter	Measurement Frequency During Operations	Quantification Level	Sample Type	EPA Method
Static Water Elevation	Annual		Direct Measurement	
pH	Annual		Grab	EPA Approved
Specific Conductance	Annual		Grab	120.1
Total Inorganic Nitrogen (Ammonia + Nitrate + Nitrite)	Annual	20 ug/l	Grab	353.2
Total Phosphorus	Annual		Grab	6010B
Chemical Oxygen Demand	Annual	5,000 ug/l		410.4
Total Polychlorinated Biphenyls (PCBs)	Annual	0.5 ug/l	Grab	8082A
Available Cyanide	Annual	5 ug/l	Grab	9010
Arsenic	Annual	1 ug/l	Grab	6010B
Chloride	Annual	1,000 ug/l	Grab	4500-CL
Dissolved Sodium	Annual	1,000 ug/l	Grab	7770
Cadmium	Annual	0.2 ug/l	Grab	6010B
Chromium	Annual	2 ug/l	Grab	6010B
Copper	Annual	2 ug/l	Grab	6010B
Lead	Annual	1 ug/l	Grab	6010B
Mercury	Annual	0.2 ug/l	Grab	7471
Nickel	Annual	25 ug/l	Grab	6010B
Zinc	Annual	10 ug/l	Grab	6010B
2,3,7,8, TCDD	Annual	10 ug/l	Grab	1613, Revision 1
1,2,3,7,8-PeCDD	Annual	50 ppq	Grab	1613, Revision 1
1,2,3,4,7,8,-HxCDD	Annual	50 ppq	Grab	1613, Revision 1
1,2,3,6,7,8-HxCDD	Annual	50 ppq	Grab	1613, Revision 1
1,2,3,7,8,9-HxCDD	Annual	50 ppq	Grab	1613, Revision 1
1,2,3,4,6,7,8-HpCDD	Annual	50 ppq	Grab	1613, Revision 1
OCDD	Annual	100 ppq	Grab	1613, Revision 1
2,3,7,8-TCDF	Annual	10 ppq	Grab	1613, Revision 1
1,2,3,7,8-PeCDF	Annual	50 ppq	Grab	1613, Revision 1
2,3,4,7,8-PeCDF	Annual	50 ppq	Grab	1613, Revision 1

1,2,3,4,7,8-HxCDF	Annual	50	ppq	Grab	1613, Revisio
1,2,3,6,7,8-HxCDF	Annual	50	ppq	Grab	1613, Revisio
2,3,4,6,7,8-HxCDF	Annual	50	ppq	Grab	1613, Revisio
1,2,3,7,8,9-HxCDF	Annual	50	ppq	Grab	1613, Revisio
2,3,4,6,7,8-HpCDF	Annual	50	ppq	Grab	1613, Revisio
1,2,3,4,7,8,9-HpCDF	Annual	50	ppq	Grab	1613, Revisio
OCDF	Annual	100	ppq	Grab	1613, Revisio

SAGINAW DMDF MONITORING WELL LOCATIONS

MONITORING WELL LOCATION			
	NORTHING	EASTING	DEPTH *
US-1-08(MW)	740756	13248648	15'
US-2-08(MW)	739620	13248247	25'
US-3-08(MW)	738236	13247683	15'
US-4-08(MW)	736584	13248149	15'
US-5-08(MW)	736244	13249060	15'
US-6-08(MW)	735924	13249948	25'
US-7-08(MW)	735936	13250043	25'
US-8-08(MW)	736163	13250081	15'
US-9-08(MW)	736353	13250108	15'
US-10-08(MW)	736731	13250163	15'
US-11-08(MW)	737253	13250160	15'
US-12-08(MW)	737949	13250042	15'
US-13-08(MW)	738835	13249914	30'
US-14-08(MW)	740692	13249296	25'
US-12-05(MW)	737831	13247521	88.4'
US-12A-05(MW)	737826	13247518	136.8'
US-13-05(MW)	739363	13250059	113.8'
US-14-05(MW)	736346	13248589	152.3'
US-15-05(MW)	736603	13250488	108.6'

*DEPTH OF WELL REFERS TO DEPTH BELOW GROUND SURFACE
(APPROXIMATELY 580', USGS DATUM)





US Army Corps of Engineers
Detroit District

DATE	20 MAY 2008
DESIGNED BY	TPK
DRAWN BY	TPK
CHECKED BY	TPK
PROJECT NUMBER	00000000
DATE	00000000
PROJECT NAME	UPPER SAGINAW DMDF
DATE	00000000
PROJECT NAME	SAGINAW DMDF MONITORING WELL LOCATIONS
DATE	00000000
PROJECT NAME	UPPER SAGINAW DMDF

UPPER SAGINAW DMDF
SAGINAW DMDF
MONITORING WELL
LOCATIONS

SHEET NUMBER
1
OF 1

OPERATIONAL MANAGEMENT PLAN
UPPER SAGINAW RIVER
DREDGED MATERIAL DISPOSAL FACILITY
SAGINAW RIVER, MICHIGAN
JUN 2008

APPENDIX I
MDEQ PERMIT

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY PERMIT

Saginaw County Public Works
Attn: James A Koski
111 South Michigan Avenue
Saginaw, MI 48602

Permit No.	04-73-0047-P
Issued	February 23, 2005
Extended	
Revised	
Expires	February 23, 2010

Under the provisions of the Natural Resources and Environmental Protection Act 451, PA 1994, as amended and specifically:

- | | |
|---|--|
| <input checked="" type="checkbox"/> Part 301 Inland Lakes and Streams | <input type="checkbox"/> Part 315 Dam Safety |
| <input type="checkbox"/> Part 325 Great Lakes Submerged Lands | <input type="checkbox"/> Part 323 Shorelands Protection and Management |
| <input checked="" type="checkbox"/> Part 303 Wetland Protection | <input type="checkbox"/> Part 353 Sand Dune Protection and Management |
| <input checked="" type="checkbox"/> Part 31 Floodplain/Water Resources Protection | |

Permission is hereby granted, based on permittee assurance of adherence to State requirements and permit conditions to:

Permitted Activity:

Excavate approximately 260,740 cubic yards of material from farmed wetland/floodplain area; construct a 281 acre dredged material disposal facility (DMDF) within farmed wetland/floodplain area consisting of 2.5 miles of dike constructed with the excavated material; place 5 cubic yards of rip rap and install a DMDF water discharge outlet structure at the Saginaw River; install mooring pilings, hydraulic dredge pipeline, minor rip rap and dredge up to 1000 cubic yards from the Saginaw River for an offloading facility; and, place 3.1 million cubic yards of Saginaw River dredged material within the DMDF. Perform maintenance dredging as required to maintain the offloading facility.

The purpose of the project is to provide a dredged material disposal facility for the maintenance of the Upper Saginaw River Federal navigation channel.

Water Course Affected: Saginaw River

Property Location: Saginaw County, Zilwaukee Township, Sec. 20,21; Bay County, Frankenlust Twp., Sec 9,16,17
Subdivision, Lot Town/Range 13N, 5E Property Tax No. 30-13-5-20-4003-000-001 +

Authority granted by this permit is subject to the following limitations:

- A. Initiation of any work on the permitted project confirms the permittee's acceptance and agreement to comply with all terms and conditions of this permit.
The permittee in exercising the authority granted by this permit shall not cause unlawful pollution as defined by Part 31, Floodplain/Water Resources Protection of the Natural Resources and Environmental Protection Act 451, PA 1994, as amended.
- C. This permit shall be kept at the site of the work and available for inspection at all times during the duration of the project or until its date of expiration.
- D. All work shall be completed in accordance with the plans and the specifications submitted with the application and/or plans and specifications attached hereto.
- E. No attempt shall be made by the permittee to forbid the full and free use by the public of public waters at or adjacent to the structure or work approved herein.
- F. It is made a requirement of this permit that the permittee give notice to public utilities in accordance with Act 53 of the Public Act of 1974 and comply with each of the requirements of that act.
- G. This permit does not convey property rights in either real estate or material, nor does it authorize any injury to private property or invasion of public or private rights, nor does it waive the necessity of seeking federal assent, all local permits or complying with other state statutes.
- H. This permit does not prejudice or limit the right of a riparian owner or other person to institute proceedings in any circuit court of this state when necessary to protect his rights.
- I. Permittee shall notify the Department of Environmental Quality within one week after the completion of the activity authorized by this permit, by completing and forwarding the attached, preaddressed post card to the office addressed thereon.
- J. This permit shall not be assigned or transferred without the written approval of the Department of Environmental Quality.
- K. Failure to comply with conditions of this permit may subject the permittee to revocation of permit and criminal and/or civil action as cited by the specific State Act, Federal Act and/or Rule under which this permit is granted.
- L. Work to be done under authority of this permit is further subject to the following special instructions and specifications:

All work shall be completed in accordance with the attached plans received June 10, 2004. Any modification or revision to the approved design plans and/or specifications must be approved in writing by the Department of Environmental Quality - Land and Water Management Division (LWMD).

Permittee, or property successors, shall protect the sites of historic significance as agreed in the Final Wetland Mitigation Plan. At a minimum, the two historical areas shall be fenced with a 15 meter buffer zone prior to any construction activity. Fences may be removed after all construction activities are completed.

Permittee shall obtain clearance from MDNR, Wildlife Division, Endangered Species Specialist, in the form of a "NO Effect" statement before work on this project begins. To minimize disturbance of bald eagle nests near the site, no construction or dredging activity or dredged material disposal operation may occur between January 15th and May 10th of each year per agreement between the U.S. Army Corps of Engineers and U.S. Fish and Wildlife Service.

The permittee shall, as a primary condition to the issuance of this permit, mitigate the impact of the discharge of the fill material into the wetland area by creating a minimum of 336 acres of wetland in accordance with the Conceptual Wetland Mitigation Plan dated November 24, 2004. Prior to commencement of ANY work authorized by this permit, permittee shall 1) Submit and receive LWMD approval of a Final Wetland Mitigation Plan with site specific information and 2) Post an irrevocable letter of credit in the amount of \$400,000 in favor of the Michigan Department of Environmental Quality, Land and Water Management Division, for construction of wetland mitigation and site monitoring.

The design flood or 100-year floodplain elevation at this location on the Saginaw River (Saginaw Critical Flood Storage Area) is 585.7 feet NGVD29.

The permittee shall, as a primary condition to the issuance of this permit, compensate for the loss of 281 acres of Saginaw Critical Flood Water Storage Area by preserving flood water storage on 658 acres. No work within the 100-year floodplain may begin until the flood water storage is compensated through 1) LWMD approval and Permittee recording of a Restrictive Deed Covenant to preserve the 300 acres of flood water storage on the portion of the parcel not used for the DMDF, and 2) execution of a Memorandum of Understanding (MOU) between the Michigan Department of Natural Resources, Wildlife Division (DNR) and Michigan Department of Environmental Quality for preservation of a minimum of 358 acres of flood water storage off-site. The memorandum shall include a provision that DNR shall execute a Flood Water Storage restrictive deed covenant in favor of the DEQ prior to any sale of the property. Referenced restrictive deed covenant/s and MOU shall be part of this permit.

All dredged material excavated within the Saginaw River for development and maintenance of the offloading facility or installation of inlet and outlet structures, must be placed within the DMDF, the USACE Saginaw Bay confined disposal facility or a licensed landfill.

Excess soil materials from the project shall not be deposited in floodplains, wetlands, or surface water without first securing a permit under the Natural Resource and Environmental Protection Act, 1994 PA 451, as amended. All excess soil material shall be placed within the DMDF unless other disposal is specifically requested and approved by LWMD.

Site runoff shall be directed to public or natural drainage ways and not unnaturally discharged onto adjacent properties. Permittee is cautioned that grade changes resulting in increased runoff onto adjacent property is subject to civil damage litigation.

All raw areas resulting from this construction activity shall be promptly and effectively stabilized with seed-mulch and/or sod in sufficient quantity to prevent erosion and subsequent siltation to any watercourse and/or wetland.

A Management Plan shall be prepared for the Dredge Material Disposal Facility (DMDF) which preserves the long term integrity of the facility for contaminant containment, includes closure requirements to meet solid waste requirements, meets operational water quality discharge requirements, specifies actions required to address any waterfowl botulism and bald eagle nesting issues, minimizes the exposure of wildlife to contaminants at the DMDF, and is complementary with adjacent Wetland Mitigation Area and State Game Area. **The plan shall be approved by the DEQ prior to the disposal of Saginaw River dredged material.**

Submit to this office within 60 days of perimeter dike construction "as-built" plans, signed and sealed by a qualified professional licensed by the State of Michigan, certifying that the project has been completed in accordance with this permit, total acreage of wetland impact for the DMDF, and on-site acreage available for wetland mitigation.

Review for this permit does not include the structural integrity of the proposed dikes. It is recommended that the Permittee construct dikes to Federal Emergency Management Agency (FEMA) flood control standards for levees. These standards are found in 44CFR Part 65, Section 65.10.

In issuing this permit, the Department of Environmental Quality has relied on the information and data which permittee has provided in connection with the permit application. If, subsequent to the issuance of this permit, such information and data prove to be false, incomplete, or inaccurate, the Department may modify, revoke, or suspend the permit, in whole or in part, in accordance with the new information.

The authority to conduct the activity as authorized by this permit is granted solely under provisions of the governing act as identified above. This permit does not convey, provide, or otherwise imply approval of any other governing act, ordinance, or regulation, nor does it waive the permittee's obligation to acquire any local, county, or federal approval or authorizations necessary to conduct the activity.

Authorization is required from the State of Michigan to discharge waste water from this facility to either groundwater or surface waters. Please contact Mr. William Creal, Water Division, at 517-335-4114, for more information concerning the requirements for this authorization.

Permittee shall comply with Part 55, Air Quality Control regulations. Provisions to reduce odors and hazardous fugitive dust release shall be incorporated into a DEQ approved Final DMDF Design.

Zilwaukee Township (Saginaw County) and Frankenlust Township (Bay County) may have additional floodplain development requirements under local ordinances and/or resolutions and through each community's participation in the NFIP.

Authority granted by this permit does not waive any jurisdiction of the U.S. Corps of Engineers or the need for a federal permit, if required.

Authority granted by this permit does not waive permit requirements under the Natural Resource and Environmental Protection Act, Part 91 - Soil Erosion and Sedimentation Control, or the need to acquire applicable permits from the County Drain Commission/County Public Works Commission.

The permittee shall indemnify and hold harmless the State of Michigan and its departments, agencies, officials, employees, agents and representatives for any and all claims or causes of action arising from acts or omissions of the permittee, or employees, agents, or representatives of the permittee, undertaken in connection with this permit. This permit shall not be construed as an indemnity by the State of Michigan for the benefit of the permittee or any other person.

Saginaw County Public Works

Permit No. 04-73-0047-P

This permit shall become effective on the date of signature by a Department of Environmental Quality officer. Upon signing by the permittee named herein, this permit must be returned to Land and Water Management Division, Department of Environmental Quality, 503 N. Euclid, Suite 1, Bay City, Michigan, 48706 for final execution.

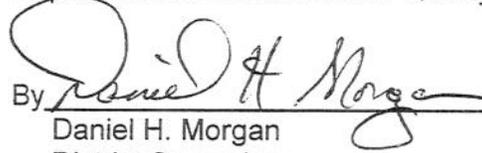
Permittee hereby accepts and agrees to comply with the terms and conditions of this permit.

 _____
Permittee signature

2-23-2005

Date

Steven E. Chester, Director
Department of Environmental Quality

By  _____

Daniel H. Morgan
District Supervisor
Land and Water Management Division

- cc: Saginaw CEA
- Zilwaukee Township
- Frankenlust Township
- Mr. Jeff Martin, Lt. Governor's Office
- Mr. Terry Long, U.S. Army Corps of Engineers-Detroit District
- Mr. Russ Beaubien, Spicer Group
- Mr. Dean Anderson, State Historical Archives
- Ms. Lori Sargent, MDNR, Wildlife Division
- Mr. David Hamilton, DEQ



PROPOSED PLACEMENT AREA

PROPOSED NEW DIKE ALIGNMENT (TYP)

PROPOSED MITIGATION AREA (TYP)

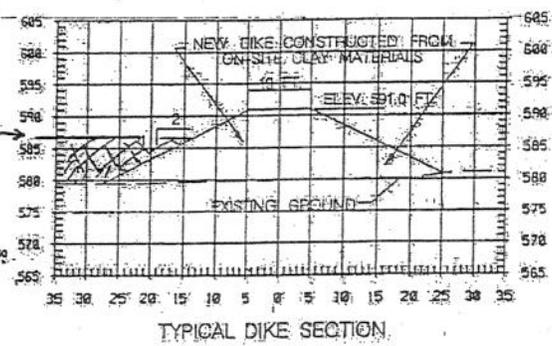
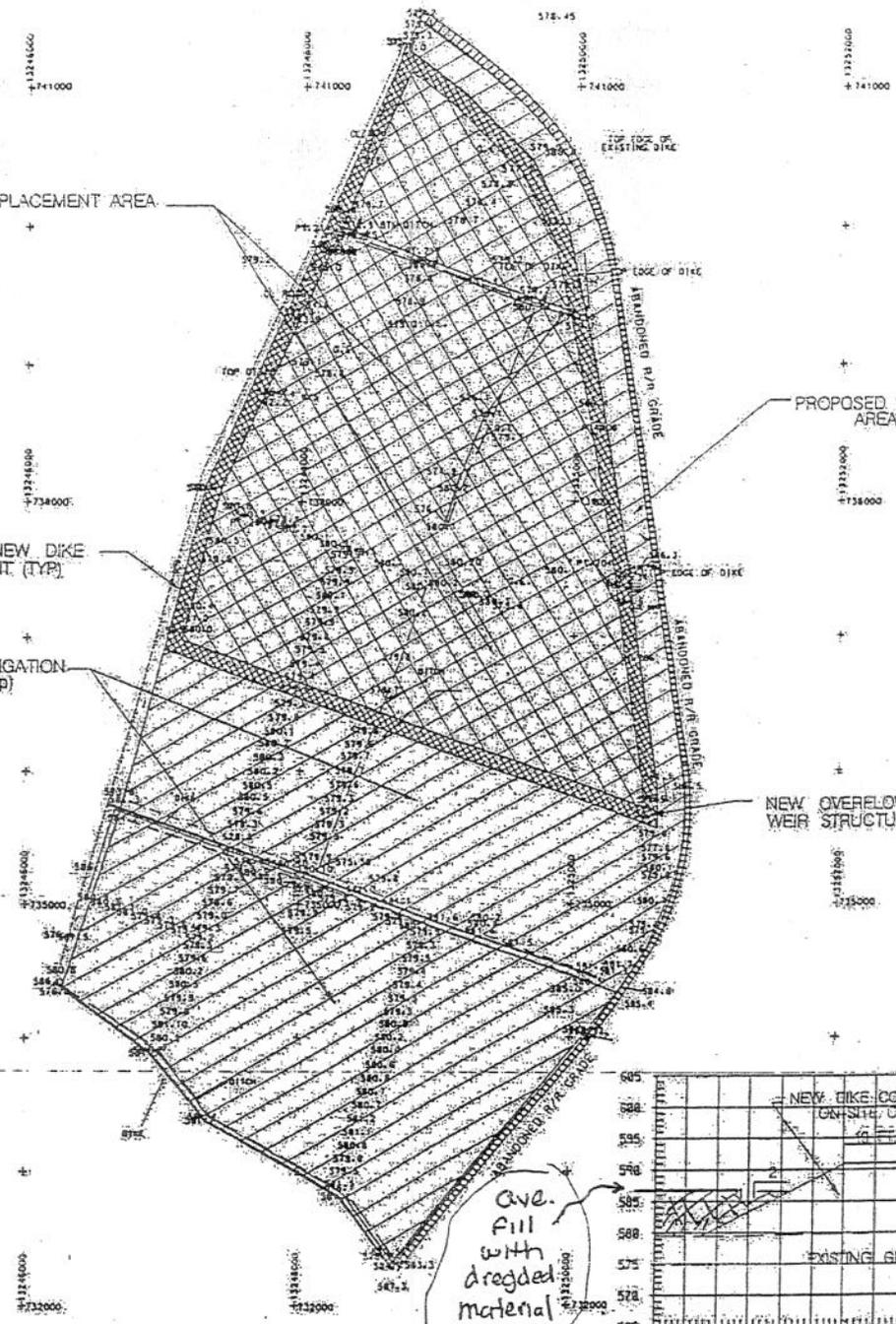
PROPOSED MITIGATION AREA (TYP)

NEW OVERFLOW WEIR STRUCTURE

Geological & Land Mgt.

JUN 10 2004

Permit Consolidation U

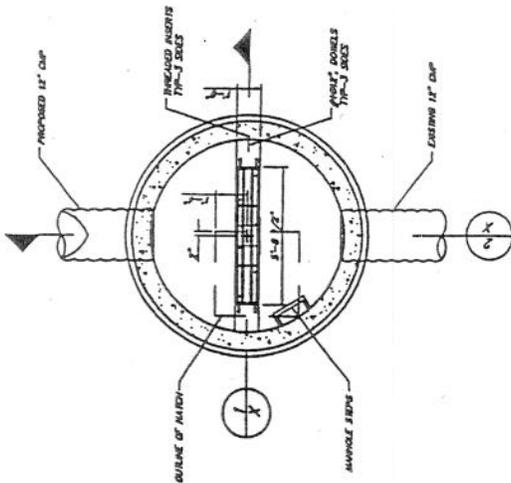


SITE PLAN
 500 250 0 250 500 1000 FT
 SCALE: 1" = 500'

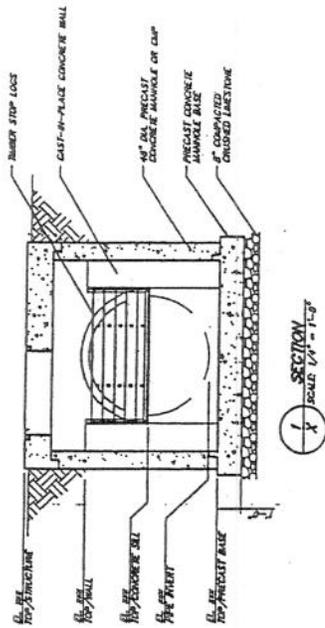
NOTES:

1. THE TOTAL AREA OF THE SITE IS APPROXIMATELY 581 ACRES.
2. THE AREA OF THE PROPOSED (HACHURED) PLACEMENT AREA IS APPROXIMATELY 281 ACRES.
3. THE AREA OF THE PROPOSED MITIGATION AREA IS APPROXIMATELY 300 ACRES.

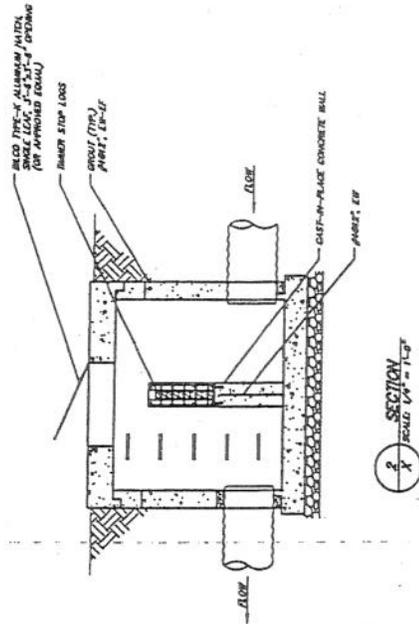
U.S. ARMY ENGINEER DISTRICT, DETROIT CORPS OF ENGINEERS DETROIT, MICHIGAN	
UPPER SAGINAW RIVER, MICHIGAN PROPOSED DREDGED MATERIAL PLACEMENT SITE	
SITE PLAN	
DRAWN BY: PJO	CHECKED BY: KJW
DATE: 30 MARCH 2004	PLATE 1



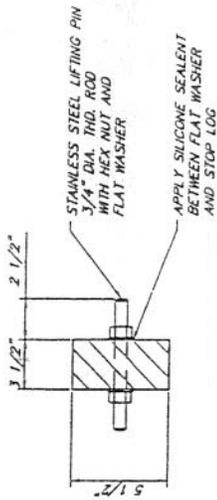
PLAN VIEW
SCALE: 1/4" = 1'-0"
(SHOW BUT NOT REQUIRED)



SECTION 1-1
SCALE: 1/4" = 1'-0"

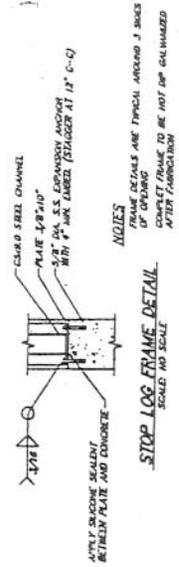


SECTION 2-2
SCALE: 1/4" = 1'-0"



TIMBER STOP LOG DETAIL
SCALE: 1/16" = 1'-0"

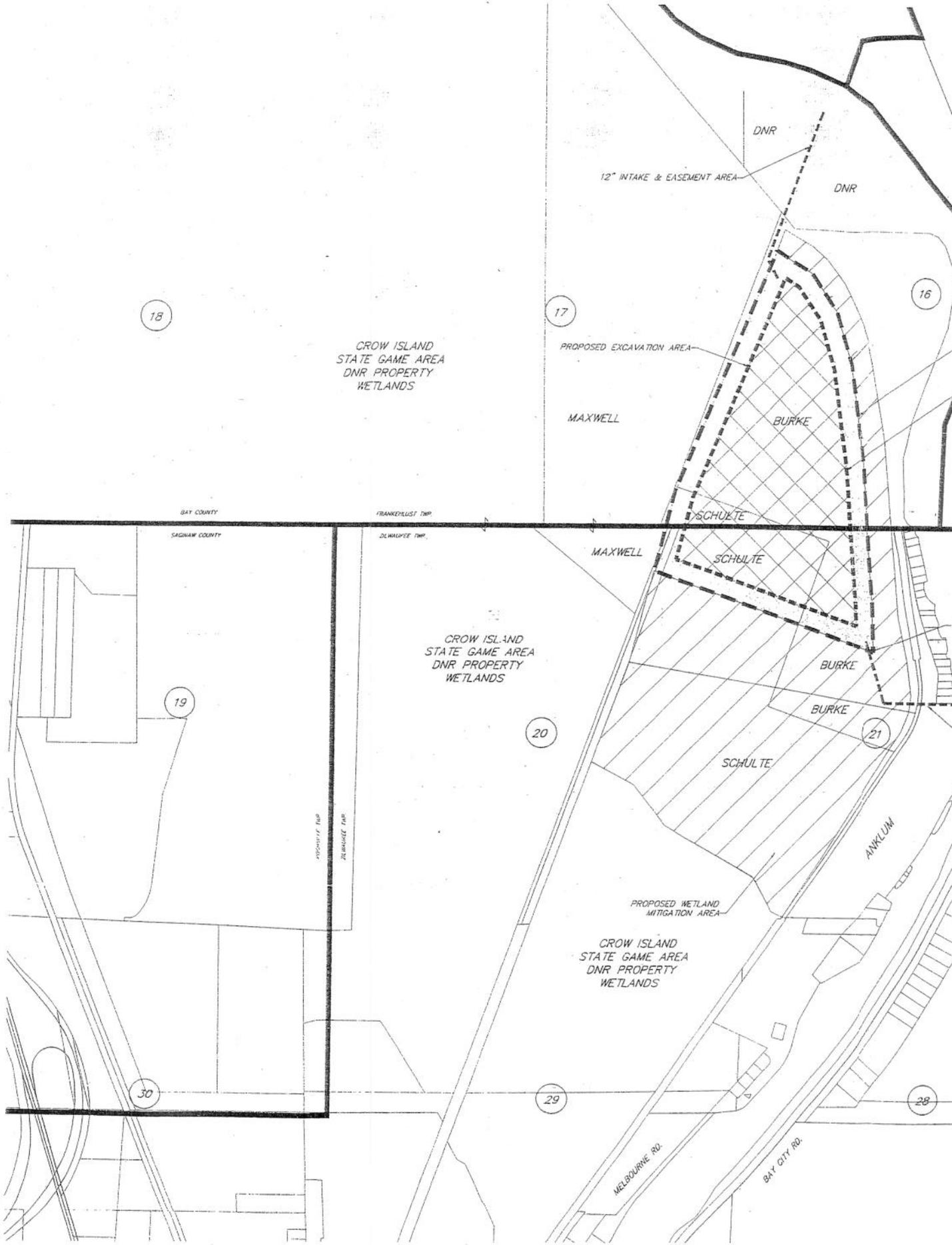
4.6 (NOMINAL) TIMBER STOP LOG MATERIAL SHALL BE SELECT GRADE SOUTHERN PINE, KILN DRIED AND TREATED TO 0.80 C.C.A. ANY HOLES OR SAW-CUTS TO STOP LOGS AFTER C.C.A. TREATMENT SHALL BE COATED WITH A APPROVED SYSTEM

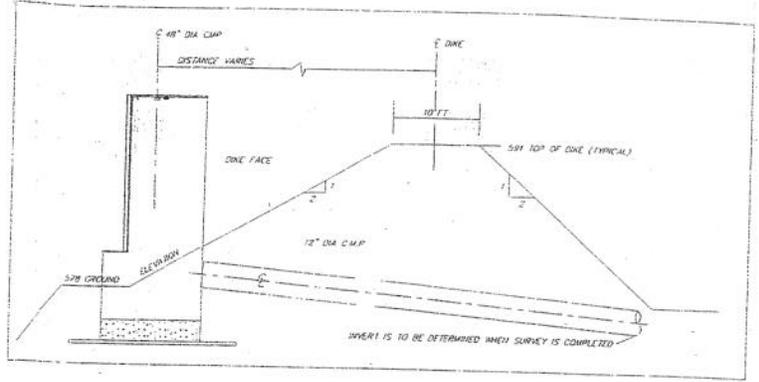
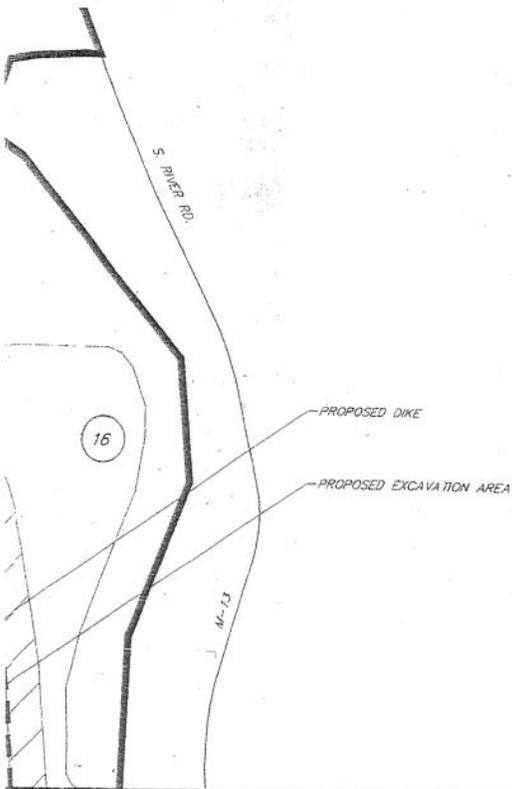


STOP LOG FRAME DETAIL
SCALE: NO SCALE

NOTES
FRAME DETAILS ARE TYPICAL AROUND 3 JOBS OF OPENING
COMPLETE FRAME TO BE NOT IMP ENHANCED AFTER FABRICATION

RECEIVED
MAY 27 2004
MDEQ-GLMD
Permit Consolidation Unit





DIKE SECTION & OVERFLOW WEIR



15

21

22

28

27

Geological & Land Mgt. Div.
JUN 10 2014
Permit Consultation Unit



SCALE: 1" = 800'

- EXCAVATION AREA
- PROPOSED PLACEMENT AREA
- PROPOSED WETLAND MITIGATION AREA
- PROPOSED DIKE APPROX. 2.5 MILES
- PROPOSED LIMITS OF EXCAVATION AREA

NOTE:
PROPOSED DREDGE SPOILS ARE BEING PLACED WITHIN THE DIKE.
ENTIRE PROJECT IS WITHIN THE 100 YEAR FLOOD PLAIN, ELEV. 585.7 FT.

BY	MARK	REVISIONS	DATE
<p>THE WORK REPRESENTED BY THIS DRAWING WAS DESIGNED BY THE ENGINEER FOR THIS SPECIFIC APPLICATION AND SPECIFIC LOCATION DESCRIBED HEREIN IN ACCORDANCE WITH THE CONDITIONS PREVALENT AT THE TIME THE DESIGN WAS DONE. THE ENGINEER DOES NOT GUARANTEE AND WILL NOT BE LIABLE FOR ANY OTHER LOCATION, CONDITION, DESIGN OR PURPOSE.</p>			
<p>PROPOSED UPPER SAGINAW RIVER DREDGING MATERIAL MANAGEMENT SITE</p>			
<p>OFFICE LOCATIONS SAGINAW, MI ST. JOHNS, MI CARO, MI DETROIT, MI MARQUETTE, MI</p>		<p>SAGINAW OFFICE 250 S. Washington Ave. Saginaw, MI 48607 Tel. 989-754-4717 Fax. 989-754-4440 www.SpicerGroup.com</p>	
DE. BY:	CH. BY:	PROJECT NO.	
DR. BY:	APP. BY:		

OPERATIONAL MANAGEMENT PLAN

**UPPER SAGINAW RIVER
DREDGED MATERIAL DISPOSAL FACILITY
SAGINAW RIVER, MICHIGAN
JUN 2008**

APPENDIX J

AS-BUILT DRAWINGS